

HAZMAT CLASSES



CLASS	LABEL	DESCRIPTION
1.1 1.2 1.3		<p>1.1 – explosives with a mass explosion hazard (e.g. TNT, gunpowder, gelignite)</p> <p>1.2 – explosives which are a projectile or fragmentation hazard, but not a significant mass explosion hazard (e.g. grenades, bombs, some forms of ammunition)</p> <p>1.3 – explosives which are a fire and minor blast hazard, with minor projectile or minor fragmentation hazards (e.g. sodium picramate, Pyrodex, display fireworks)</p>
1.4		Explosives which are not a significant mass explosion hazard (e.g. flares, 'toy' fireworks, safety cartridges, propelling charges, fuses)
1.5		Explosives with a mass explosion hazard, but which are very insensitive substances (e.g. diperchlorate)
1.6		Substances which are a minor explosion hazard, and which are very insensitive substances (e.g. some forms of very insensitive ammunition)
2.1	 May also look like:	Flammable gases: gases that can ignite in air on contact with a source of ignition (e.g. acetylene, natural gas, LPG and many aerosols)
2.2	 May also look like:	<p>Non-flammable, non-toxic gases: gases that are non-flammable but may cause asphyxiation and/or represent stored energy hazard (e.g. carbon dioxide, compressed air, helium and nitrogen).</p> <p>Some of these gases have additional danger as an oxidising agent (5.1)</p>
2.3		<p>Toxic gases: gases likely to cause death or serious injury to human health if exposed, or by skin contact (e.g. chlorine, phosgene gas, hydrogen cyanide, anhydrous ammonia).</p> <p>Some of these gases are also flammable (2.1), oxidising (5.1) or corrosive (8).</p>
3	 May also look like:	Flammable liquids: liquids (and their vapours) that can burn on contact with a source of ignition (e.g. petrol, acetone, kerosene and paint thinners)

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HAZMAT CLASSES – cont.









4.1		<p>Flammable solids: solids easily ignited by sparks or flames, or liable to cause fire through friction (e.g. safety matches, sulphur, mothballs, camphor, firelighters)</p>
4.2		<p>Spontaneously combustible: substances in this class are likely to heat spontaneously and ignite (e.g. activated carbon, white phosphorous, calcium dithionite). Some can ignite spontaneously when wet (4.3) or give off toxic gases (2.3) in a fire.</p>
4.3	 <small>May also look like:</small>	<p>Dangerous when wet: these solids give off dangerous quantities of flammable or toxic gases when they make contact with water. The heat resulting from this reaction may cause these gases to spontaneously ignite (e.g. lithium, sodium, calcium carbide)</p>
5.1		<p>Oxidising substances: these substances can contribute to or accelerate the combustion of other combustible or flammable materials (e.g. ammonium nitrate, hydrogen peroxide, nitric acid)</p>
5.2		<p>Organic peroxides: substances that can ignite spontaneously and possibly explode. These substances are temperature or impact/friction sensitive (e.g. methyl ethyl ketone peroxide, benzoyl peroxide) Some of these substances may contribute oxygen to a fire (5.1), and may be flammable (3 or 4) or combustible (4.2).</p>
6.1		<p>Toxic substances: substances that are likely to cause death or severe injury to human or animal health if swallowed, inhaled or with skin contact (e.g. cyanides, lead, calcium, arsenic and many pesticides). Nearly all of these give off toxic gas when heated or in a fire (2.3). Some are flammable (3) or corrosive (8).</p>
6.2		<p>Infectious substances: substances containing pathogens, such as bacteria, viruses and parasites, which can cause life-threatening or fatal disease in human or animals (e.g. live vaccines, medical and clinical waste, anthrax spores)</p>

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HAZMAT CLASSES – cont.



7	 <p>May also look like:</p> 	<p>Radioactive materials: substances (solid or liquid) that spontaneously emit harmful levels of radiation (e.g. uranium, plutonium, radium, cobalt).</p> <p>May be category I, II or III, which refers to radiation level of transport package.</p>
8		<p>Corrosive substances: solids or liquids that will destroy or permanently damage another substance (especially living tissue) it comes in contact with. May be acidic or caustic in nature. Often the vapours that these substances give off are sufficient to irritate the nose and eyes (e.g. hydrochloric acid, sodium hydroxide, acetic acid).</p>
9		<p>Miscellaneous: substances which during transport present a danger not covered by other classes (e.g. dry ice, asbestos, some aerosols and elevated temperature liquids such as hot bitumen)</p>
n/a		<p>Mixed class: this label indicates the presence of more than one class or division of dangerous goods (used only in Australia).</p>
n/a		<p>Environmentally hazardous substances: these are liquids or solids, and solutions or mixtures of substances (such as preparations and wastes) that are pollutant to the aquatic environment (e.g. industrial waste).</p>

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A TYPICAL EMERGENCY INFORMATION PANEL

ANHYDROUS AMMONIA		 TOXIC GAS 2	 CORROSIVE 8
UN No.	1005		
HAZCHEM	2RE		
IN EMERGENCY DIAL	SPECIAL ADVICE ORGANISATION NAME AND PHONE NUMBER		
000 POLICE or FIRE BRIGADE			

Card based on ADG Code 6 & HB76. Printed June 1999

THE HAZCHEM CODE

It is an initial emergency code, with up to three symbols, eg 2 R E, which indicate the firefighting and dispersion agents (1,2,3 and 4) the risks, personal protection and other measures (P,R,S,T,W,X,Y and Z), and whether or not to consider evacuation (E). Other terms:- V - risk of violent reaction or explosion.

FULL - minimum of a chemical splash suit, breathing apparatus and impervious gloves and boots. In some cases, a fully sealed gas suit will be required (see *Dangerous Goods - Initial Emergency Response Guide - HB76*).

BA - breathing apparatus and impervious gloves.

DILUTE - may be washed away with large quantities of water, and, wherever practicable, should be contained and prevented from entering drains and watercourses.

CONTAIN - prevent any spillage from entering drains and watercourses.

INTERPRETATION OF 2RE

Water fog is the suggested agent. There is no risk of violent reaction. Full protection is required. Dilute. Consider evacuation. (Also, check HB76 for each material.)

1		WATER JETS		2		FOG		3		FOAM		4		DRY AGENT	
P	V	FULL										DILUTE			
R		BA													
S	V	BA for FIRE only													
S		BA													
T		BA for FIRE only										CONTAIN			
T		FULL													
W	V	BA													
X		BA for FIRE only													
Y	V	BA										CONTAIN			
Y		BA for FIRE only													
Z		BA													
Z		BA for FIRE only													
E		CONSIDER EVACUATION													

HAZMAT GUIDELINES (fire)

1. Safe approach
2. Incident Command
3. Scene security
4. Identify HazMats
5. Assess potential harm and minimize environmental contamination
6. Call in resources
7. Monitor information
8. Render safe and decontaminate